diseases; lipid levels and cardiac ultrasound related indicators can also be used as an indicator to detect risk factors associated with cardiovascular disease. This study compared blood Hcy and lipid levels, cardiac ultrasound difference between patients with RA and OA to find the differences of these factors between RA and OA.

Methods: RA and OA cases were collected between January 2013 to December 2013. Cases were excluded associated with other diffuse connective tissue disease, ruled with severe hypertension, diabetes and other metabolic disorders and inflammatory responders. Informations of age, gender, disease duration; whether with cardiovascular disease, drug use, laboratory test results, including blood lipids, Hyc, dynamic blood erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), platelet count and disease activity score including RA disease activity score (DAS28), osteoarthritis score index (WOMAC) were recorded.

Results: (1) Baseline Profile: A total of 162 patients were analyzed, including 64 patients with RA, OA 88 patients.There were no differences between two groups in gender, age, duration ($P>0.05$); (2) RA group and OA group Hcy levels(14.26±5.84 umol/l vs 15.51±22.68umol/l)showed no significant difference($P>0.05$), and Hcy levels in RA patients was in normal range; (3)lipid levels: RA group TC, LDL-C and Apo-a levels were higher than those of OA group (4.45±1.14 mmol/l vs 4.43±1.19 mmol/l, $P>0.05$; 3.05±0.94mmol/l vs 2.94±0.88 mmol/l, $P>0.05$;124.03±24.70 mmol/l vs 138.86±28.38 mmol/l, $P<0.01$), HDL level was lower than that of OA group (1.26±0.27mmol/l vs 1.36±0.32 mmol/l, $P>0.05$); (4) echocardiography:aortic diameter was higher in RA group than that in OA group (32.09±2.52 vs 31.44±2.67, $P<0.05$), while ejection fraction (EF%), diastolic dysfunction (LVPW) in RA group were lower than those in OA group(63.96± 9.15% vs 64.47±8.01%, $P>0.05$; 9.74±0.96 vs 10.61±3.55, $P>0.05$); (5) inflammatory-related indicators:ESR, CRP and platelet counts were significantly higher in RA group than those in the OA group (57.44± 31.07mm/h vs 14.60±17.49mm/h, $P<0.01$; 43.02±49.14 mg/l vs 6.64±13.91 mg/l, $P<0.01$; 288.86±92.88×10^9/LVS 213.85±62.60×10^9/L, $P<0.01$). Correlation analysis showed that Hcy lever was associated with TC and LA ($r=-0.196$, $P<0.05$; $r=0.211$, $P<0.05$).

Conclusions: Compared with the literature, RA patients in this study showed no increased Hcy levels, which may be caused by longer duration and impact of the drugs used(DMARDs drugs); But there are higer lipid levels and lower cardiac function in RA patients than those in OA patients, which are risks of cardiovascular disease, and they are may be caused by chronic inflammatory processes in RA and should be pay attention in RA.

GW25-e4217

The relationship between 48h blood pressure circadian rhythms and cognitive function in elderly hypertensive patients

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Objectives: There exists a dispute on the relationship between blood pressure circadian rhythms and cognitive impairment.24 hour ambulatory blood Pressure monitoring (ABPM) could show us the circadian rhythms of blood pressure throughout the day dipper or non-dipper, however, definiting dipping status on the basis of a single ABPM is questionable. Some scholars believe that the circadian rhythm as a continuous variable had a better reproducibility compared with as a categorical variable, for that reason, we analyzed the relationship between cognitive function and 48 hour blood pressure diurnal rhythms as both categorical variables and continuous variables , which will provide more Sufficient evidence for the prevention or treatment of cognitive impairment.

Methods: A total of 139 elderly essential hypertensive patients (106 males and 33 females, aged 84.04±4.77years) underwent twice 24-hour ABPM within 4 weeks, and were divided into three groups according to the circadian pattern of blood pressure: reproducible dippers group (18 cases), reproducible non-dippers group (99 cases), variable-dippers group (22 cases). Cognitive function was assessed with Mini-Mental State Examination(MMSE) and Montreal Cognitive Assessment (MOCA). We explore the differences of MMSE and MOCA score among the three groups and the association between MMSE or MOCA scores and 48 hours nocturnal dipping of blood pressure (48 hours nighttime average systolic/daytime average systolic blood pressure, 48h nSBP/dSBP).

Results: Compared with reproducible dippers group, reproducible non-dippers group and variable-dippers group had a lower cognitive function score (MMSE, MOCA) (all $P<0.05$), but there was no significant difference between the last two groups. 48h nSBP/dSBP was negative associated with the MMSE score ($r=-0.231$, $P=0.006$) as spearman correlation analysis shows and was introduced into the equation of MMSE multiple linear regression [standard regression coefficients $\beta=-0.227$ ($P=0.007$)]. But it had no significant correlation with MOCA score. No significant among the three groups were found in general clinical features.

Conclusions: Reproducible non-dipper blood pressure pattern and variable-dippers in elderly hypertensive patients were related to cognitive impairment, which could partially explain the contradiction between the conclusions of previous studies. As a continuous variables, 48-hour nocturnal blood pressure decrease rate was independent factors for cognitive function, and the smaller the decrease rate, the lower the MMSE score within a certain range. Clinically, abnormal circadian rhythm should be adjusted on the early stage in order to avoid cognitive impairment.

Cerebrovascular Disease

GW25-e1380

Association of Temperature with Cerebrovascular and Cardiovascular Diseases in Beijing in the Context of Climate Change

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Objectives: Firstly, to elucidate the relative importance of temperature on human health. Secondly, to interpret the importance of temperature variation with respect to observed Cardiovascular and Cerebrovascular diseases. Thirdly, to estimate the direct effects of temperature on local people in some big cities.

Methods: Data from the meteorological database of China Meteorological Administration was selected and the temperature configurations in terms of daily minimum temperature, daily mean temperature, and daily temperature difference from January 1 to December 31 of 2012 were analyzed. The data set of cardiovascular and cerebrovascular diseases including the daily myocardial infarction (ICD: 21-22) and cerebral infarction (ICD: 63) were chosen from a class-A hospital in Beijing, totally amounting to 12933 cases. Four patient groups including under the age of 44, 45-59, 60-74 and over 75 years old were analyzed by the aid of spss17.0.

Results: We found that the number of male cardiovascular and cerebrovascular patients was more than the number of female patients in the four groups, with the maximum value appearing in the group of 45-59. In particular, the number of female Cardiovascular and Cerebrovascular patients showed a peak within the group of 60-74. The temperature factor, to certain content, induced some effects on cardiovascular and cerebrovascular diseases. It seemed the effect of temperature is much greater in persons of middle-aged and aged over 70 years, with patients appearing annual maximum peak in winter and larger fluctuation in autumn. Furthermore, the maximum and minimum numbers of patients just appeared shortly after the peak temperature peak, probably implying a lagged effect between the number of cardiovascular and cerebrovascular diseases and the temperature in Beijing.

Conclusions: A statistically significant correlation has been found between temperature and mortality. This relationship is not monotonic, but mortality increases in proportion to the variance in ambient temperature from a range of temperatures that varies from winter to summer in Beijing.

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GW25-e5387

Long-term risk of stroke in female part of general population aged 25-64 years with sleep disorders in Russia: based on MONICA-psychosocial epidemiological study

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Objectives: To determine the effect of sleep disturbances (SD) on health behavior and relative risk of stroke in female part of population aged of 25-64 years depending on social gradient in Russia over 16 years of follow-up.

Methods: Under the third screening of the WHO "MONICA-psychosocial" (MOPSY) program random representative sample of women aged 25-64 years (n=870) were surveyed in Novosibirsk. Jenkins's questionnaire was used to estimate quality of sleep. From 1995 to 2010 women were followed for 16 years for the incidence of stroke. Cox proportional regression was used for hazard ratio (HR) assessment. Chi-square test (χ^2) was used to asses the statistical significance between groups. Women having cerebrovascular diseases at the baseline were not included in the analysis.

Results: The prevalence of SD in women aged 25-64 years was 64.9%. Women with SD significantly extended negative behavioral habits: smoking and unsuccessful attempts to give it up ($\chi^2=41.4$ df=20 $P<0.001$), low physical activity, they were less likely to follow a diet ($\chi^2=33.9$ df=16 $P<0.01$). Stroke was developed in 35 (6.3%) women over 16 years of study. Within 16 years of follow-up women with SD had 1.95-fold risk of stroke (95.0%CI:1.01-3.79; $P<0.05$) than those without SD. Depending on the age groups the risk of stroke incidence was highest in group of 45-